

REMARKS

This communication is in response to the Office Action of December 12, 2007.

Claim 1 was objected to. Applicant has corrected claim 1 as the Examiner requested.

In response to the 35 USC §103 claim rejections, Applicant has clarified the language of the independent claims and included limitations from previously presented dependent claims. Additional support is provided on page 6 regarding selection of geographical location of output audio devices, such as speakers.

As amended, the independent claims clarify that the open applications are applications having audio as a primary output. In particular the independent claims were amended to include the limitation “the two or more different open applications are selected from the group consisting of a media player, video game software, and a video player.”

The independent claims were also amended to clarify that “the selection of virtual devices by the user determines the geographical location of output audio devices for each open audio application.” As described in Applicant’s specification, in one embodiment a user selects one or more virtual devices to determine where audio data will be output (e.g., front, rear, center, or specific rooms).

Applicant has also further revised the claims to clarify that the single sound card performs any mixing required to support simultaneously outputting audio data from two or more open applications according to the user’s selection of virtual devices. As amended, the claims specify that “wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio applications according to an arbitrary user selection of open applications and the selection of virtual devices.”

It is respectfully submitted that the amended claims are patentable over the combination of cited references. The claimed invention is directed towards solving a problem not even recognized by the cited art. As described in the background to Applicant’s specification, in the prior art many systems of processing multi-channel audio could only service one open audio application at a time, required several different sound cards, and were also inconvenient for a user to use. In the claimed invention a single sound card supports outputting audio from two or more open audio applications. The virtual devices permit a user to conveniently assign the output of each open application to output audio devices in different geographical locations.

Additionally, since mixing is supported the selection of the user can be completely arbitrary; that is the user can assign two or more applications to the same virtual device if they desire and can open applications as they desire with the mixing being performed to accommodate the open applications and selection of virtual devices.

SLEZAK generates sound “cues” spaced apart about the computer user to help a user identify screen locations of visual cues. (see SLEZAK, column 5, lines 39-41, “the present invention includes spacialization of audio in conjunction with the visual cues in order to direct the attention of the user.”) Note that SLEZAK has all of its audio sources located in close proximity about the user and the examples that are provided describe operating only one sound source at a specific position at any one time in order to provide directional information. For example, column 5, lines 45-62 discusses placing a sound source in front of the monitor for an email program so that the “location of the sound source 102 in front of the monitor 47A thereby directs the attention of the user 100 to the monitor 47A.” Other examples, includes placing a sound source near the left ear of a user to provide a positional cue. The figures and examples in SLEZAK make it clear that the speakers in SLEZAK must be oriented close enough to the user and operated in a manner that a speaker provides a positional cue to the user.

It is respectfully submitted that SLEZAK does not teach or suggest any of the virtual device limitations of the amended claims. SLEZAK does not permit a user to arbitrarily select one or more virtual devices for an audio application. This is not possible with SLEZAK, because SLEZAK must always operate its speakers to provide a positional audio cue. In particular, SLEZAK does not teach or suggest “wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio applications according to an arbitrary user selection of open applications and the selection of virtual devices.” SLEZAK cannot perform this function, as it would defeat the fundamental principal of operation of SLEZAK, which is to always provide an audio cue via a speaker in a manner that provides a positional cue. An arbitrary user assignment that “mixed” channels of two or more open applications would result in all positional information in SLEZAK becoming confused.

SIBBALD and SHAW also fail to teach or suggest “wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio

applications according to an arbitrary user selection of open applications and the selection of virtual devices.”

It is also respectfully submitted that the class of open audio applications should be considered as an additional basis of patentability. SLEZAK generates audio cues that require generating sound in specific locations to provide positional cues. In contrast, media applications, video games, and video players have speaker jacks selected based on other considerations, such as which room the user will be in and/or which speaker locations give the best entertainment experience. Additionally, such applications may also use two or more audio channels, thereby increasing the likelihood that mixing may be required to support two or more open applications with an arbitrary user selection of virtual devices.


In view of the foregoing amendments and remarks, it is respectfully submitted that the application is now in condition for allowance. The Examiner is invited to contact the undersigned if there are any residual issues that can be resolved through a telephone call.

The Commissioner is hereby authorized to charge any appropriate fees to Deposit Account No. 50-1283.

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EVG/dlh